

DEPARTMENT OF TRANSPORTATION

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-007025**Date Inspected:** 01-Feb-2009**Project Name:** SAS Superstructure**OSM Arrival Time:** 645**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1845**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Sun Wei / Sun Bo**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Components**Summary of Items Observed:**

The Caltrans (CT) Quality Assurance (QA) Inspector Charlie Franco was present at the time requested to randomly observe welding and associated operations being performed for the Orthotropic Box Girders (OBG).

OBG Sub-Assembly Bay 12:

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to reduce weld induced distortion from welding the T=35 millimeter (mm) thick I-Ribs to Deck Plate 1AW-DP550-001 at Complete Joint Penetration (CJP) Weld Joint (WJ) Numbers 013, 015, 017, 019 and 021. 1AW-DP550-001 is placed upside down with heat being applied directly to the welds attaching the T=35 millimeter (mm) I-Ribs to the base plate of 1AW-DP550-001. The QA Inspector randomly observed that jacks (passive) were in place with no restraints and no counter weights being applied. The work was being performed in accordance with ZPMC Heat Straightening Request (HSR) HSR (B)-248 Rev. 0.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to reduce weld induced distortion from welding the T=35 mm thick I-Ribs to Deck Plate 1AE-DP615-001 at CJP WJ's 011, 013 and 017. 1AE-DP615-001 is placed upside down with heat being applied directly to the welds attaching the T=35 mm I-Ribs to the base plate of 1AE-DP615-001. The QA Inspector randomly observed that jacks (passive) were in place with no restraints and no counter weights being applied. The work was being performed in accordance with ZPMC HSR HSR (B)-251 Rev. 0.

The QA Inspector randomly observed a ZPMC Carbon Air Arc Gouging (CAAG) Operator utilizing the CAAG

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Process to gouge out and remove rejects detected during a previous ZPMC QC Ultrasonic Testing (UT) Examination in a weld attaching a T=35 mm I-Rib to Deck Plate 1AW-DP540-001 at WJ 011.

The QA Inspector randomly observed 1 ZPMC helper utilizing an angle grinder to blend the cover passes on the welds attaching the T=35 mm I-Ribs to Deck Plate DP560-001-001 at WJ's 013, 015, 017, 019 and 021.

The QA Inspector randomly observed a ZPMC helper utilizing a pencil grinder to blend the copes on the ends of the T=35 mm thick I-Ribs on Deck Plate Sub-Assembly 1AE-DP590-001.

The QA Inspector randomly observed ZPMC welders Jiang Jing Guang ID 062265 and Song Yin Shu 059421, utilizing the Flux Cored Arc Welding (FCAW) Process in the 2G/2F (Horizontal Groove/Horizontal Fillet) Positions with ZPMC Weld Procedure Specification (WPS) WPS-345-FCAW-2G (2F)-Repair-1, to perform weld repairs in excavated areas of WJ 018 and 014 respectively, on Deck Plate 1AE-DP610-001. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. The QA Inspector also randomly monitored the weld parameters and recorded them as follows: 280 amps, 30.6 volts with a travel speed of 485 mm per minute for Mr. Jiang and 278 amps, 31 volts with a travel speed of 490 mm per minute for Mr. Song. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to reduce weld induced distortion from welding the T=35 mm thick I-Ribs to Deck Plate 1AW-DP560-001 at CJP WJ's 013, 015, 017, 019 and 021. 1AW-DP560-001 is placed upside down with heat being applied directly to the welds attaching the I-Ribs to the base plate of 1AW-DP560-001. The QA Inspector randomly observed that jacks (passive) were in place with no restraints and no counter weights. The work was being performed in accordance with ZPMC HSR HSR (B)-249 Rev. 0.

The QA Inspector randomly observed a ZPMC CAAG Operator utilizing the CAAG Process to gouge out and remove rejects detected during a previous ZPMC QC UT Examination in a weld attaching a T=35 mm I-Rib to Deck Plate WJ 015 in Deck Plate 1AE-DP595-001.

The QA Inspector randomly observed ZPMC welder Lu Liang ID 059373, utilizing the FCAW Process in the 3G/3F (Vertical Groove/Vertical Fillet) Positions with ZPMC WPS WPS-B-T-2233-B-U2a-F, to fit up and tack weld the "U" shaped backing bars to the U-Ribs on Deck Plate 1AE-DP605-001, to allow for the installation of the U-Rib Extensions. The QA Inspector randomly observed ZPMC QC monitoring weld parameters. Weld parameters appeared to comply with contract requirements.

The QA Inspector randomly observed ZPMC welding personnel performing heat straightening operations to reduce weld induced distortion from welding the T=35 mm thick I-Ribs to Deck Plate 1AW-DP545-001 at CJ WJ Numbers 011, 015, and 017. 1AW-DP545-001 is placed upside down with heat being applied directly to the welds attaching the I-Ribs to the base plate of 1AW-DP545-001. The QA Inspector randomly observed that jacks (passive) were in place, but no restraints or counter weights were being used. The work was being performed in accordance with ZPMC HSR HSR (B)-256 Rev. 0.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

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Summary of Conversations:

No relevant conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 150-0042-2372, who represents the Office of Structural Materials for your project.

Inspected By:	Franco,Charlie	Quality Assurance Inspector
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Reviewed By:	Clifford,William	QA Reviewer
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